RELEASE INVESTIGATION
AND
SITE CHARACTERIZATION REPORT

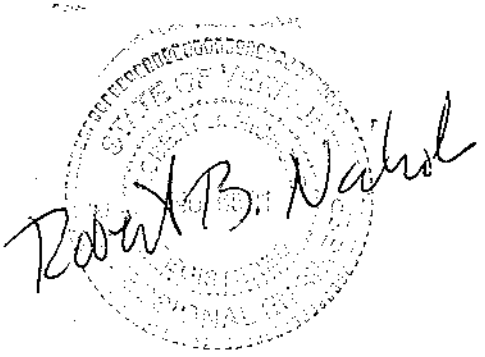
LIMLAW PULPWOOD
261 VERMONT ROUTE 25
WEST TOPSHAM, VERMONT

Prepared for:

Mr. Bruce Limlaw
261 Vermont Route 25
West Topsham, Vermont 05086

Project Number R16546M

May 22, 2000



DuBois & King inc.

ENGINEERING • PLANNING • DEVELOPMENT • MANAGEMENT

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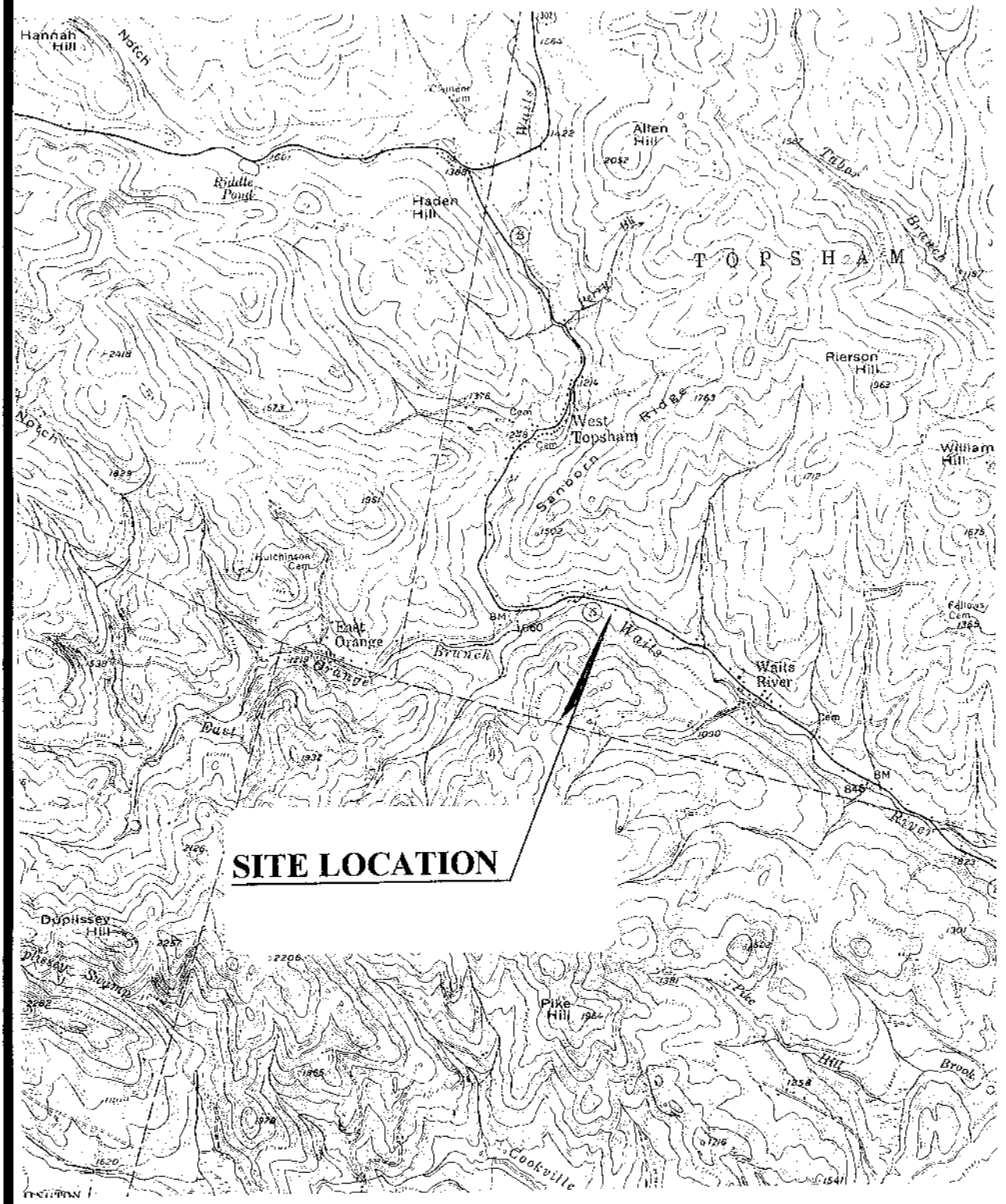
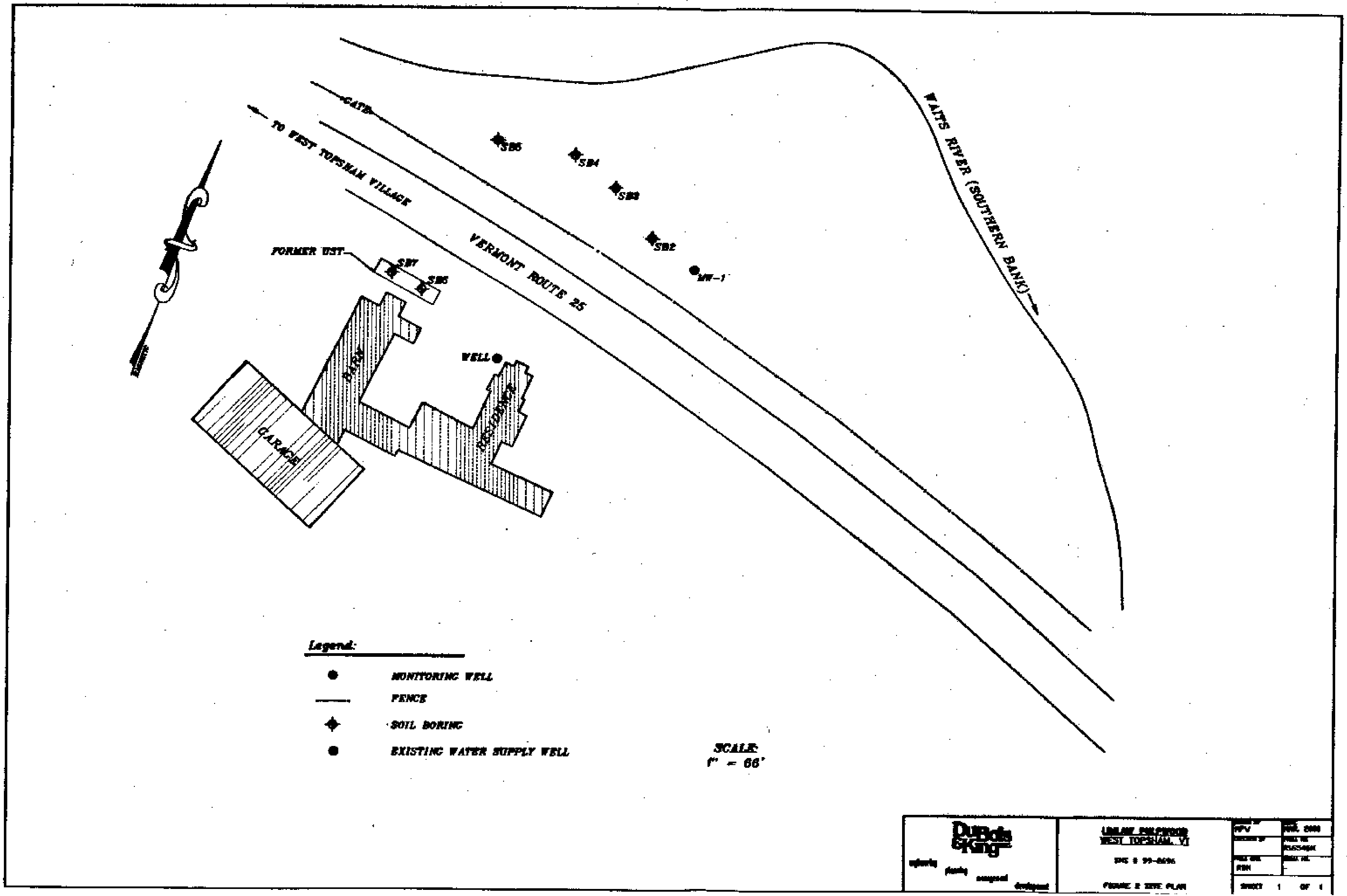


USGS Topographic Map East Barre, VT 1957 Scale: 1" = 1 mile Contour interval = 20'	**LIMLAW PULPWOOD** **West Topsham, Vermont** **Figure 1 Site Location Map**	5/19/2000	
		Project Eng. *R. B. Nichols*	
		R16546M	



GATE
TO WEST TOPSHAM VILLAGE
VERMONT ROUTE 25
WAITS RIVER (SOUTHERN BANK)
SB5
SB4
SB3
SB2
MW-1
FORMER UST
SB7
SB6
WELL
BARN
RESIDENCE
GARAGE
Legend:
MONITORING WELL
FENCE
SOIL BORING
EXISTING WATER SUPPLY WELL
SCALE:
1" = 66'
DuBois & King
WEST TOPSHAM, VT
SHEET 1 OF 1

The basement of the Limlaw home, which was constructed of stones, was screened with the PID along the walls nearest to the former diesel UST. There were no positive readings. The results of the screening of soil samples is summarized in Table 1.

TABLE 1
Soil Screening Results
Limlaw Pulpwood

DESIGNATION	LOCATION	DEPTH (feet)	NOTES
MW-1	North side of Rte 25	18.7	1.5" ID MW installed WT @ 13.5' Soil screened @ 13.5' PID = 0.0 ppm
SB-2	North side of Rte 25	3.8	Cobbles, No samples
SB-3	North side of Rte 25	5.0	Cobbles, No samples
SB-4	North side of Rte 25	2.0	Cobbles, No samples
SB-5	North side of Rte 25	7.4	Cobbles, No samples
SB-6	Former tank pit	5.0	Sample @ 5' PID = 4 ppm
SB-7	Former tank pit	2.5	Cobbles, No samples

The soil samples were collected and stored in Zip-Lok bags to allow temperature equilibration before screening. Head space screening was completed within four hours of sample collection.

3.0 ANALYTICAL RESULTS

A groundwater sample was collected from MW-1 and a drinking water sample was collected from the residential water supply on April 20, 2000. The groundwater sample was analyzed for volatile aromatic hydrocarbons using EPA Method 8260. The drinking water sample was analyzed for volatile organics using EPA Method 524.2. All results were less than the method detection limit. The laboratory reports are included in Appendix A.

4.0 SENSITIVE RECEPTORS

The well drillers logs maintained by the Water Supply Division were reviewed to identify nearby drinking water supplies. These records do not include any private wells within 1,000 feet of the former UST and do not include the Limlaw well which was, according to the owners,

installed within the last five to ten years. Based on regional topography, the Waits River, which flows in an easterly direction toward Bradford, is the discharge point for regional groundwater in this area. The river is within 300 feet of the former tank location. The well drillers logs are included in Appendix B

Except for the Limlaw's well, there are no nearby houses or water supplies within 600 to 800 feet of the former tank.

5.0 CONCLUSIONS AND RECOMMENDATIONS

A release of diesel fuel to soils from pipe connections and the fill connection at the former 8,600-gallon UST on the subject property was reported in the UST Closure Report, prepared October 15, 1999. Free product was not reported in the closure report. Soil screening results were reported to be as high as 80 ppm, with most reported measurements between 20 and 60 ppm. The report indicates that groundwater was located at 15 feet below grade. The report concludes that, based on the occurrence of contaminated soils at depths near the depth of the water table, "petroleum impacts were observed to extend to the approximate level of the groundwater table on the day of the inspection".

The information developed during the current investigation, although not developed in full conformance with the approved work plan, does not support a conclusion that an impact to groundwater or to sensitive receptors has occurred. Groundwater and drinking water samples collected and analyzed for this investigation did not contain detectable levels of volatile organic or aromatic compounds. The basement of the Limlaw home did not contain detectable levels of organic compounds. With the exception of the Limlaw home itself, there are no nearby houses or water supplies.

The only evidence discovered during the current investigation that a petroleum product release did occur was a soil screening reading of 4 ppm at 7 feet below grade in the former UST pit. This value is less than the limit established in Vermont guidelines for diesel fuels.

Based on these considerations, DuBois & King, Inc. recommends that no further action be required at this site and that the site be given a SMAC (Site Management Activity Completed) designation.

APPENDIX A

LABORATORY REPORT

SCITEST
LABORATORY SERVICES

ANALYTICAL REPORT

P.O. Box 339
Randolph, Vermont 05060-0339
(802) 728-6313
http://www.scitestlabs.com
email: info@scitestlabs.com

Dubois & King
P.O. Box 339
Rte 66 Professional Center
Randolph, VT 05060

Work Order No.: 0004-01375

Project Name: Limlaw Pulpwood
Customer Nos.: 080439

Date Received: 4/20/00
Date Reported: 5/04/00

Sample Desc.: MW-1
Sample Nos: 001

Sample Date: 4/20/00
Collection Time: 10:40

Test Performed	Method	Results	Units	Analyst	Analysis Date
TPH, Estimated - Water	Modified 8100GC/FID	< 1.3	mg/L	RJS	5/01/00
Depth to Water		12.5	Feet	RER	4/20/00
Volatiles, BTEX	EPA 8260			RJS	4/22/00
Methyl tertiary Butyl Ether	EPA 8260B	< 1.0	ug/L	RJS	4/22/00
Benzene	EPA 8260B	< 1.0	ug/L	RJS	4/22/00
Toluene	EPA 8260B	< 1.0	ug/L	RJS	4/22/00
Ethylbenzene	EPA 8260B	< 1.0	ug/L	RJS	4/22/00
Xylenes, Total	EPA 8260B	< 1.0	ug/L	RJS	4/22/00
1,3,5-Trimethylbenzene	EPA 8260B	< 1.0	ug/L	RJS	4/22/00
1,2,4-Trimethylbenzene	EPA 8260B	< 1.0	ug/L	RJS	4/22/00
Naphthalene	EPA 8260B	< 1.0	ug/L	RJS	4/22/00
***Bromofluorobenzene		97	% Recovery	RJS	4/22/00

Sample Desc.: Kitchen Sink
Sample Nos: 002

Sample Date: 4/20/00
Collection Time: 10:05

Test Performed	Method	Results	Units	Analyst	Analysis Date
Volatile Organics by GC/MS	EPA 524.2			RJS	4/21/00
Bromodichloromethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Bromoform	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Bromomethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Chlorobenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Dibromochloromethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Chloroethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Chloroform	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Chloromethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
2-Chlorotoluene (ortho)	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
4-Chlorotoluene (para)	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,2-Dichlorobenzene (ortho)	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Dibromomethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Dichlorodifluoromethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,3-Dichlorobenzene (meta)	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
cis 1,2-Dichloroethene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00

ANALYTICAL REPORT

Project Name: Limlaw Pulpwood
Project No.: 080439

Work Order No.: 0004-01375

Sample Desc.: Kitchen Sink
Sample Nos: 002

Sample Date: 4/20/00
Collection Time: 10:05

Test Performed	Method	Results	Units	Analyst	Analysis Date
trans 1,2-Dichloroethene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,1-Dichloroethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,2-Dichloropropane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Dichloromethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
2,2-Dichloropropane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,3-Dichloropropane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
cis 1,3-Dichloropropene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,1-Dichloropropene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Fluorotrichloromethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Ethylbenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Styrene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,1,1,2-Tetrachloroethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,2,2-Tetrachloroethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,1,2-Trichloroethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Tetrachloroethene (PCE)	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,2,3-Trichloropropane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Toluene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
m/p-Xylene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
o-Xylene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,2,4-Trichlorobenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Bromochloromethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
n-Butylbenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
sec-Butylbenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
tert-Butylbenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Hexachlorobutadiene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Isopropylbenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Naphthalene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Propylbenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,2,3-Trichlorobenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,2,4-Trimethylbenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,3,5-Trimethylbenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Benzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Bromobenzene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Carbontetrachloride	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,2-Dichloroethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
P-Isopropyltoluene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,4-Dichlorobenzene (para)	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,1-Dichloroethene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
ans-1,3-Dichloropropene	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
1,1,1-Trichloroethane	EPA 524.2	<0.0005	mg/L	RJS	4/21/00

ANALYTICAL REPORT

Project Name: Limlaw Pulpwood
Project No.: 080439

Work Order No.: 0004-01375

Sample Desc.: Kitchen Sink
Sample Nos: 002

Sample Date: 4/20/00
Collection Time: 10:05

Test Performed	Method	Results	Units	Analyst	Analysis Date
Trichloroethene (TCE)	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Vinyl Chloride	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Xylenes, Total	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Total Trihalomethanes	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Methyl tertiary Butyl Ether	EPA 524.2	<0.0005	mg/L	RJS	4/21/00
Surrogate: Bromofluorobenzene		103	% Recovery	RJS	4/21/00

Authorized by: Patrick Lamothe

SCITEST LABORATORY SERVICES

APPENDIX B

WELL DRILLER'S LOG

ADAMS ENGINEERING
Gerard Adams
#47 Blakey Rd., Underhill, VT 05489-9493
(802)-899-4945

February 16, 2000

Mr. Bob Nichols
Dubios & King
Well logs: Limlaw Pulpwood/Topsham

Soils sampled in open borehole with 2 3/4" OD X 2 3/8" ID X 5' **NQ**, 2 /3/16" OD X 1 13/16" ID X 5' **BQ** sampler lined with a polyethylene bag, the sampler brought to the surface, and the sample contained in the liner vibrated out for examination. Monitor well with a point at the bottom that is larger in OD than well screen to create an annulus, is placed in the open borehole left by sampling down to top of "*collapsed native soils*", the borehole annulus partially filled with pack sand , the well with some pack sand vibrated to depth creating a partial sand pack enhancing natural development, the open annulus refilled with sand pack above well screen "*complete sand pack*", a granular bentonite seal is then placed in the open annulus.

2/15/00 MW #1 Across Rt. 25 South.

SOILS WELL

	+2'	2" Sleeve stickup, 2" gripper plug.
0>-8'		Drag bit to -1' then 2" solid auger, brown sandy loam// sand, gravel, & cobbles.
	-.3'	Top well 1.5" solid riser.
	-4'	Top of granular bentonite.
	-5.5'	Bottom bentonite - top complete sand pack placed in open annulus.
-8>18.7'		Refusal, BQ sampler, sand gravel & cobbles, saturated -13.5', becoming silty @ bottom.
	-8.7'	Top well screen 2-5' X 1.5" X .010" slot Monoflex, typ.
	-14'	Bottom complete sand pack-top native collapse partial sand pack & natural development.
0>-18.7'		Refusal, NQ sampler to ream for well.
	-18.7'	Bottom well screen, point.

Well not developed.

SOIL BORINGS 2 thru 7 drilled to refusal using a combination of drag bit & 2" solid augers, and for SB 6&7 BQ sampler. Soils sandy gravel & white cobbles.

SB 2 Across Rt 25 south of utility pole, refusal -3.8'
SB 3 Across Rt 25 north of SB 2, refusal -3.8'
SB 4 Across Rt 25 between SB 2 & MW 1, refusal -2.0'
SB 5 Across Rt 25 near utility pole, refusal -7.4'
SB 6 Near SE corner of barn (dispenser area) BQ sampler refusal -4.5'
SB 7 Near NE corner barn ramp (tank cavity) BQ sampler refusal -2'.

G. Adams